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ABSTRACT

This paper analyzes two student papers, "Pygmalion" and "Waiting to Inhale," in terms of the type of thinking demonstrated in them. It examines the difference between higher order patterns of thinking evident in advanced or adult writers and patterns of thinking in young writers or students. The study reported in the paper builds on an earlier pilot study which concluded that expert writers engage in more processing activities than student writers do. The paper calls into question the value of writing models for young aspiring writers. It begins by offering a broad background in semiotics and the Piagetian perspective on the relationship among referents; it then reviews dialectical or relativistic thinking as they apply to assessment in composition. From there, it contrasts traditional and progressive approaches to composition assessment. Toward the end of enriching traditional models of assessment and creating an explicit vocabulary for the purpose of assessing students with an enriched model, the paper defines four types of high order interpretants or textual relationships used by expert writers: (1) dialectical thinking; (2) contextual thinking; (3) conceptualization; and (4) paradigmatic thinking. While these high order patterns of thinking are present in the work of expert writers, they are not often available to students. (Contains appendixes of student writing and 66 references.) (TB)

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Semiotics in Education/SIG

Beyond Syntax: The Identification and Assessment of Interpretants Utilized by Expert Writers

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"If a writer of prose knows enough about what he is writing about he may omit things he knows and the reader, if the writer is writing truly enough, will have a feeling of those things as strongly as though the writer had stated them. The dignity of the movement of an iceberg is due to only one-eighth of it being above the surface." Ernest Hemingway

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RELATIONSHIP

A Semiotic Perspective

Many of my students find this well-known Hemingway quotation - mounted on the wall of my eleventh grade English classroom, the corners of the orange laminated construction paper curled from age and frequent reference - a bit unsettling. They probably feel grappling with words is hard enough, without the additional burden of looking beyond them. Or maybe I put them off by pointing at the spaces between sample words on the chalk board and announcing dramatically that someone like Hemingway can charge them with meaning. Likely they're justified in feeling this way, although I have always found my explanation intuitively satisfying. The underlying logic goes something like this: if meaning resides in words, and writers leave some out - as Hemingway intimated - then the meaning in those words must go somewhere. Where else but the spaces between?

Though this approach may help students visualize what Hemingway intended, it is, of course, inaccurate. Meaning exists - not in empty space - but in the *relationships* between words. Demonstrating this is easy enough. Simply ask - as I did the other day - what is meant by the word "ball." Likely, you will hear that it is "something round that can bounce." Watch how that changes when you write "ball" on the board followed by the words "of yarn" or preceded by "She went to the."

The validity of this assertion is readily acknowledged by those of us who compose, because as we know, it is the generating and culling, sorting and shifting, arranging and rearranging of words that cause most of our difficulties with writing. (Even to create a meaningful sentence in English ultimately depends on word order.) Further, the theoretical importance of relationship in language and thought has been well established by an eminent line of thinkers, of whom one of the first was Ferdinand de Sausurre, whose entire theory of language - according to Jonathan Culler - rests on the idea of relationship:

The ultimate law of language is, dare we say, that nothing

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> can ever reside in a single term. This is a direct consequence of the fact that linguistic signs are unrelated to what they designate, and that therefore *a* cannot designate anything without the aid of *b* and vice versa, or, in other words, that both have value only by the differences between them, or that neither has value, in any of its constituents, except through the same network of forever negative differences. (Culler, 1986, p. 64)

For instance, the meaning of the term "chair," comes not from an intrinsic connection between the object "chair" (signified) and name "chair" (signifier), but in the difference between "chair" and "couch" or "chair" and "lamp." So that "chair" is not meaningful in isolation, but only in a relationship with the other living room furniture. From this basic premise came the structuralist movement and a host of notable successors, including Hjelmslev (1943/1969), Greimas (1966/1983), Barthes (1964/1967, 1985/1988), and Eco (1976, 1984): all of whom worked from this fundamental conception of the relationship between words.

Inevitably, however, Sausurre's conception of relationship is limited by his emphasis on a synchronic view of language, i.e. language frozen in time. In contrast, C.S. Peirce's theory of cognition adds a third component, which accounts for the changing nature of relationships over time (Apel, 1981; Peirce, 1991; Merrel, 1995). According to Peirce, an object, or more accurately, a sensual perception (firstness) engenders a sign or mental representation (secondness), both of which are mediated by a relationship or an interpretant (thirdness). It is the interpretant - the relationship between perception and sign - which gives a sign its meaning. To better understand the idea of an interpretant, imagine two different rooms filled with furniture. In the first, the furniture is heaped haphazardly in the center of the room; in the second, the same furniture is harmoniously arranged for function and comfort. What accounts for the difference between the two rooms is the interpretant - or the relationship between the pieces (Deely, 1990). While Sausurre's semiology acknowledges the importance of those relationships within a given moment of time, it fails - unlike Peirce's triadic theory of semiotics - to account for the changing nature of those relationships over time, what Eco called "unlimited semiosis" (Eco, 1976).

Since it is relatively easy to imagine the metamorphosis of a room over time, let's take a moment to consider how this process might work in language by returning to the sign "ball." Combined with "of yarn," the three individual signs form the interpretant "ball of yarn," which in turn becomes a sign within the interpretant, "The cat played with the ball of yarn." And so on. A sentence becomes a sign within a larger interpretant - like a paragraph - and a paragraph becomes a sign within an even more encompassing interpretant.

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A Piagetan Perspective on Relationship

This unceasing process of semiosis matches well with Piagetan theory if his stages of development are conceptualized as increasingly sophisticated levels of relationships distinguished by development over time. To illustrate what I mean, let us return to our roomful of furniture. Beginning with the sensorimotor stage, relations can be discerned in pairs or triples. In other words, the couch and coffee table and lamp can be compared in regards to size, shape, etc. On the concrete level of operations objects are organized into classes - like chairs, tables, lamps, etc. On Piaget's highest level of cognitive development, the perception of concrete objects can be transformed into abstractions - like things we sit on, things we put objects on, or things that provide illumination. At this level of development - formal operations - adolescents are able to comprehend and manipulate relationships between classes of these abstractions (Richards and Commons, 1984).

Piagetan theory, however, does not account for all the relationships in our roomful of furniture, a limitation noted by the theorists who have followed him. While Piagetan theory is limited to the abstract relationships between objects or classes of objects in our room, post Piagetans have introduced the idea of systemic thinking (Richards and Commons, 1984; Commons, Richards, and Kuhn, 1982). On this level all the pieces in the room operate as one system, a level of relationships qualitatively higher than those found in the formal stage. On a formal level of operations, adults are able to manipulate relations between couches and tables and lamps within the context of a total system; to operate on the systemic level, however, they must understand the relationships that govern the entire system. These relationships exist on a qualitatively higher level than the relationships found on the formal level. On this level, we are now working with a "room" instead of a "roomful of furniture." And as we know, different rooms in a house have different rules of operation. Both living and bedrooms contain things we sit on, things we put objects on, or things that provide illumination. But although the objects in these different rooms may appear similar, the systems will differ from each other because they are determined by different rules of operation. Each is inhabited at different times of day and under different conditions and for different purposes. An ability to recognize relations on this level and to be able to compare and contrast those relationships with the relationships that determine other systems is known as systemic thinking.

The next qualitative advance in the nature of relationships is metasystemic thinking, which addresses relations beyond the capacity of systems to explain (Basseches, 1984; Richards and Commons, 1984; Commons, Richards, and Kuhn, 1982). For instance, the appearance of illumination from a lamp in the living room cannot be explained within that system, just as running water cannot be explained by the relations governing the operation of a kitchen. To explain each of these phenomena means positing a

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whole new set of relations above the systemic level. The relationships governing the house as a whole - "a family of systems" - are called paradigmatic (Richards and Commons, 1984). On the paradigmatic level, ranches, Tudors, and split level houses are all be governed by a different set of relations. Or to draw an even more distinct contrast between paradigms - houses in Japan, Italy, and the United States each operate by different sets of relations.

Dialectical and Relativistic Thinking

Not only have post Piagetans added to Piaget's developmental levels, postformalists, like Klaus Riegel, have argued strongly for the relativistic nature of thought: "*Dialectical thinking* comprehends itself, the world, and each concrete object in its multitude of contradictory relations" (1973, p. 351). And further, "Concepts like being and becoming, cause and effect, passivity and activity, structure and transformation cannot be conceived of in isolation but only in their mutual dependence" (p. 352). Another proponent of dialectical thinking, Michael Basseches has proposed a framework for dialectical schemata that operationalizes the postformalist conception of thought as nonobjective, relationship-oriented, and metasystemic (1984). To the post Piagetans, the capacity to think in relativistic terms means accepting contradictory relationships and multiple frames of reference (Perry, 1968).

How those relationships work depends on their context. As Gisela Labouvie-Vief has so ably demonstrated, even logical operations as simple as arithmetic are determined within a context (Labouvie-Vief, 1980). Given "structural openness . . .it is never possible to argue that logic is not in a very intimate way regulated by a super-ordinate context" (p.145). So logic - which is a way of describing a predictable and orderly set of relations within a closed system - varies from system to system and discipline to discipline and paradigm to paradigm, depending on the contextual setting. Therefore, the stable relations Piaget posited for the formal stage of operations are ultimately dependent on their context: in this case, a closed system of abstract relationships contextualized by Piaget's ability to think in relative terms, i.e. by observing the relationships in the living room while standing in the foyer (Labouvie-Vief, 1980; Labouvie-Vief, 1982). From an external perspective, the relationships in the living room appear constant and predictable. If an outside observer should walk back into the room, however, the relationships would change according to the viewer's position and perspective, a concept introduced into the scientific world with Einstein's theory of relativity (Sinnot, 1981; Sinnot, 1984).

Implications for Assessment in Composition

The postformalists conception of adult thought as relative and open to multiple frames of reference has broad implications

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for the teaching and assessment of writing. While classical rhetoric has appropriately emphasized the logical nature of composition (Corbett, 1971; Barthes, 1985/1988), postformal thinking has established its relative, contextualized nature. Further, the postformalist insight into relationships as indications of development has made possible a new perspective - that the identification of higher-order relationships in a composition can serve as an index of quality.

COMPOSITION ASSESSMENT

A Traditional Approach

Despite both our theoretical knowledge and our experience as writers and teachers, our teaching and assessment practices don't fully acknowledge the importance of relationship, especially a number of explicit relationships utilized by expert writers. Some relationships that are commonly addressed by teachers and researchers are organization and content, coherence, and syntax. Roughly, the preceding can be defined as the relationship between the main and supporting ideas, the relationship among supporting ideas, and the relationship of words on the sentence level. Even so, whether teachers - who have been shown to vary widely in how they read compositions (McColly, 1970; McCracken, 1985) - always acknowledge these relationships in their assessment practices is questionable. Studies have demonstrated they are prone to ignore relationships from a global (McCracken, 1985) to syntactical level (Stewart and Grobe, 1979). In another study by Harris (1977), teacher beliefs about assessment were contradicted by their practice: "Although the teachers' responses revealed a slight preference for giving more weight to content and organization, when they rated the samples, they were strongly influenced by errors in mechanics and usage" (p. 185).

In a similar way, researchers - in their quest for reliable measures of writing assessment - often ignore the importance of relationships by creating independent variables that contain no measures of relations. Here is a sampling from three different studies: total number of words written, words-per-T-unit ratio, clauses per T-unit ratio (Stewart and Grobe, 1979); total number of free modifiers, number of spelling errors per 100 words written, number of punctuation errors per 100 words written, number of diction errors per 100 words written (Stewart and Leaman, 1983); percent of prepositions in the sample, percent of possessives in the sample, and percent of adverbs in the sample (Nold and Freeman, 1977). Although these studies may have a high degree of reliability, and they do indeed produce interesting results - word choice, length, and the number of final free modifiers can all be reliably associated with the quality preferences of teachers - they face a serious challenge to their validity. As Nold and Freeman admit "correlation is not causation" (1977, p 165). The above indices may be far more

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correlated with the intelligence of the writer than the quality of her product. Furthermore, these indices have seriously limited applications for teaching purposes. It's highly questionable whether the way to better quality papers is simply by making them longer or working on choosing better words or by spending inordinate amounts of time teaching students how to insert more final free modifiers. Analogously, no matter how strongly grammatical correctness correlates with writing quality, few familiar with the research would suggest teaching grammar in isolation as a way of improving writing (Weaver, 1996).

A Different Approach

My own experience as a composition teacher has suggested another approach. After a few years of assessing writing, I began to discover I gave better feedback when I assumed the role of reader and began my criticism from there. From this stance, I found my feedback to be more insightful and appreciated, although at times difficult to communicate. Once beyond the traditional model of organization and content, coherence, and syntax, my comments seemed random and unsystemized - as if each belonged in its own category. Equally frustrating, I often found it difficult to translate my perceptions into a language my students could understand. Most of all, however, my own experience as writer strongly suggested writing is shaped by relationships more complex than thesis and support.

A pilot study I did last spring (Henning, 1996) concluded that expert writers engage in many more processing activities than student writers. At the end of that study I theorized that signs of those processes could probably be discovered in the text itself. Two assumptions guided my thinking: 1) If thinking could be tracked through the use of qualitative interviewing techniques (Basseches, 1984), then why would not a similar approach work for written text? 2) My experience with authentic assessment and writing rubrics made discovering and classifying elements within a text seem like a natural process. I hoped that by identifying these elements - whatever they were - to realize two important benefits:

1) To use these discoveries to enrich the traditional model of assessment for both assessing and teaching purposes.
2) To create an explicit vocabulary for the purpose of teaching and assessing students with this enriched model.

As a source for my analysis, I turned to my two 11th grade English textbooks: *Adventures in American Literature (Hodgins and Silverman, 1980)* and *A Writer's Reader* (Hall and Emblen, 1994). I selected these two texts because the authors found in them are widely acknowledged as expert writers and because these books have been the main source of nonfiction writing in my classes. Both contain a wide variety of authors and nonfiction, spanning

American literature and including descriptive essays, persuasive essays, and speeches.

Through my analysis of these essays, my work with student compositions, and my reading, I have identified four higher order interpretants or textual relationships utilized by expert writers:

1) dialectical thinking
2) contextual thinking
3) conceptualization
4) paradigmatic thinking.

I found these relationships present in all of the types of nonfiction texts in the two textbooks I consulted, and I believe by extension to any similar kind of text. (The word "thinking" was included in the titles as a way of emphasizing to my students the mental processing of these relationships before they are encoded in the text.)

Although I believe I could have selected any of the texts from *Adventures in American Literature* and *A Writer's Reader* to illustrate the relationships I will describe, I have chosen Lincoln's "The Gettysburg Address" (see Appendix A) for its acknowledged status as a masterpiece of American expression, and - just as important - for its brevity. In addition, I will also discuss two student essays, "Pygmalion" (Appendix B) and "Waiting to Inhale" (Appendix C). The first was written by a talented senior student, who has recently been chosen as a National Merit Scholarship Finalist. His paper (which was not written in my class) was in response to an assignment on *Pygmalion*. The second was written by an "A" student in my accelerated junior class. She chose the topic herself, received an "A" for her efforts as well as deserved praise for fulfilling the requirements of a traditional model of assessment. (In retyping the papers I have chosen to leave any errors in usage as I found them, desiring to make as few alterations as possible and trusting in the reader's ability to draw her own conclusions.)

It is also my belief that most expert readers will recognize "Pygmalion" as clearly more thoughtful than "Waiting to Inhale." Yet I will contend that both papers fulfill the requirements of the traditional model of assessment and that what is responsible for our implicit judgment in favor of "Pygmalion" are the higher order relations I will try to make explicit in this paper.

THE FOUR TEXTUAL RELATIONSHIPS

Dialectical Thinking

Bereiter and Scardamalia's explanation for a child's gradually developing ability to generate longer text provides compelling evidence that dialectical thinking is fundamental to the writing process (1987). These researchers found that elementary school childrens' initial papers are no longer than a typical oral response in a conversation. Apparently, when

children come to school, they rely on the dialectic of conversational interchange to stimulate their thinking. Gradually, however, as their ability to internalize a dialectic with an imaginary reader increases, their texts become longer.

Since dialectical thinking is also acknowledged as an important component of adult thought (Basseches, 1984; Rybash, Hoyer, & Rodin, 1986), it not too farfetched to imagine dialectical thought encoded in the text of expert writers. Literary criticism certainly provides plenty of evidence to support this supposition. Critics like Scholes (1989) and Culler (1980) regularly make use of binary oppositions to critique Hemingway and analyze poetry respectively. Ann Bertoff mentions the importance of dialectical thinking in The Making of Meaning (1981), her book on teaching writing; and Peter Elbow titled his book on teaching and learning - which extols the advantages of making extreme shifts in perspective - Embracing Contraries (1986).

In the "The Gettysburg Address," Lincoln employs a dialectic as a way of calling on his countrymen to rededicate themselves to preserving the Union. He establishes his dialectic by contrasting the inadequacy of a verbal dedication of the new national cemetery with the consecration those killed at Gettysburg have already given it, thus contrasting two different kinds of dedication - one concerning the words of the living and the other concerning the deeds of the dead. These two poles of dedication are like two distinct systems, each true to its own logic, and each opposed to the other and - at the level of thinking posited - seemingly irreconcilable. To unify them, Lincoln proposed a more encompassing plane of relationship on which his listeners could synthesize them. On this higher plane of relations the living dedicate themselves not with words, but with deeds.

I believe there are two possible explanations for the presence of a dialectic in "The Gettysburg Address." First, Lincoln may have intended his audience to experience a mimesis (to borrow a term from Ricouer, 1983/1984) of thought, similar to the way Lincoln experienced the idea as he was conceiving it. A part of this explanation assumes that expert readers and listeners use dialectical thinking to process speech or text, so that by retracing Lincoln's mental processes, the listener is able to more fully appreciate and share in the scope of his thought. The other explanation employs Peirce's triadic theory of relations. In this case, dedicating the cemetery with the words of the living is firstness, dedicating it with the deeds of the dead is secondness, and a renewed dedication with deeds on the part of the living is thirdness - the relation between firstness and secondness. According to this explanation, meaning resides not only in the three ideas explicitly stated, but also in the relation between them. So that the interaction of the three ideas together means more than the sum of their parts.

In "Pygmalion," the student writer contrasts a typical interpretation of Shaw's play - that "Shaw wanted to convey . . . the way one speaks determines one's level of social status" - with

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a more unique interpretation - that Alfred Doolittle's social rise satirizes "the fickle means by which [society] separates like humans from each other and imposes various standards, even moral standards, on various people depending on what strata of the cultural spectrum they fall into." Like the Gettysburg address, this paper uses the opposition between these two ideas to move to a third (metasystemic thinking) - the social consequences of Shaw's theme: "Many people could make contributions to society that society never lets them make, simply because it doesn't feel they are worth paying attention to . . . How many great minds have been wasted, how many great scientists have never been taught, how many revolutionary philosophers have never been shown how to think, how many peasants could have been kings, and, with a touch of cynicism, how many kings have deserved to be peasants?"

In contrast, "Waiting to Exhale" lacks the opposing ideas found in "Pygmalion" and consequently their concordant relationships. So although the author unified the essay around a thesis, accompanied by an appropriate introduction and conclusion, in comparison with "Pygmalion," it is static and unidimensional writing.

Contextual Thinking

> All discourse involves two elements, which may be called, respectively, the context (verbal or practical) and the novelty. The novelty is what the speaker is trying to point out or express. For this purpose, he will use any word that serves him. The word may be apt, or it may be ambiguous, or even new; the context, seen or stated, modifies it and determines just what it means (Langer, 1942/1957, p. 139).

As Susan Langer suggests, it is by manipulating context that writers are able to get new ideas out of the same old words. The way Lincoln effectively manipulates the meaning of "dedication" in "The Gettysburg Address" makes a good illustration of the creative potential of context. First, by surrounding "dedication" with synonyms like "consecrated," "hallowed," and "devotion," he creates a context for "dedication" that suggests the connotation most appropriate to the solemn nature of the occasion. Second, this context serves as a background against which Lincoln can move the idea of dedication from a largely ceremonial verbal act to a deeply committed behavior.

That expert and emerging writers value the potential of context differently has been illustrated in a study on revision by Flower, Hayes, Carey, Shriver, & Stratum (1986.) In the two examples that follow, the first was written by a student. Note the differences between that one and the revision by an expert writer that follows it:

> Our state capital is a beautiful structure that is very unique. When entering thé city of Austin, it is a site that stands out amongst the scherzos that surround it. This

building is known for its architecture, the craftsmanship inside the building and the history it holds.

> The Capitol of Texas remains the most impressive building in Austin, even though bank skyscrapers and university towers have challenged its onetime dominance of the skyline. The Capitol will never again be as prominent as the Nation's Capitol in Washington, where surrounding buildings have been kept in scale, but the richness of the structure itself has not been diminished. It remains a statement of the grandiose vision of the makers of modern Texas (p. 33).

The key difference between these two versions of the Capitol building in Austin is the lack of detail in the novice's version. As the expert who did the revising said, "The story lacked information" (p. 34). As a consequence of this lack, the comparison between the Capitol building and the surrounding buildings are not very distinct, so that the relationship between them is also somewhat fuzzy. In the second version, the use of detail clarifies the relationship between the buildings, as well as adding a comparison to another system of relationships - the Capitol in Washington and the buildings surrounding it. These examples suggest two important possibilities for our consideration: 1) Expert writers use more precise detail and are therefore able to make more subtle comparisons, which makes them better at delineating subtle and complex relationships. 2) Expert writers are more proficient at using relationships to generate meaning.

Although Langer's quote at the beginning of this section only emphasized context in relationship with words, (much like the example near the beginning of the paper using "ball," and "of yarn"), this idea can also be extended to include the relationships between ideas across the breadth of an essay (just like the previous examples of dialectical thinking we examined). But now, instead of a word given new meaning within a context, it is a novel idea or a new set of relationships that is posited within the context - a kind of dialectic between figure and ground.

Since by necessity the context must be introduced first, lets separate this idea from the traditional notion of an introduction right away by examining the introduction in "Waiting." This introduction does not qualify as contextual thinking because at no time does this essay offer any contrast between background and foreground; again, it is unidimensional and static. Many - if not most - student essays fall into this category. Generally, they are attempts to amass a list of supporting points for a well accepted idea. Novelty is rare, which releases the writer of the need to create a precise context, but limits her to the most conventional of ideas - ones so common that they can be understood with only a few contextual cues.

In "The Gettysburg Address," Lincoln creates two contexts. The first, beginning in the first line with the words, "Four score

and seven years ago . . ." stimulates in the listener/reader a variety of mental and intertextual associations relating to the founding of the United States (e.g. "The Declaration of Independence,' the Constitutional Convention, etc.). The second context, found in the second paragraph, is a very local one - the purpose of their gathering to dedicate a memorial for the soldiers who died at Gettysburg. By establishing both contexts, Lincoln invites the reader to make connections on more than one level when he later says "that we here highly resolve that these dead shall not have died in vain - that this nation, under God, shall have a new birth of freedom - and that government of the people, by the people, for the people, shall not perish from the earth." In regards to the second context - their immediate purpose at Gettysburg - Lincoln is calling those assembled to rededicate themselves to winning the war and preserving the Union; on another, more idealistic level, he is making a broader appeal to humankind that transcends time and place - to renew a commitment to the principles that serve as a cornerstone of freedom and democracy. That he intended this universal appeal can be defended by his use of the following words in italics: Now we are engaged in a great civil war, testing whether that nation, *or any nation so conceived and so dedicated*, can long endure.

In "Pygmalion" a conventional interpretation of the play is used as a context for the more novel one the student author posits later in his paper, a common rhetorical strategy. Unfortunately, this presents somewhat of a problem for this particular model of writing because the conventional interpretation of the play is also used as one end of the dialectic. Ideally, the relationships within a textual model for composition - in this case dialectical and contextual thinking - should be distinct from one another. But the very nature of text and textual processing makes this almost impossible. Because as we read, we quickly convert words - which are distinct - into semantic memory, where meaning overlaps (Goodman, 1976; Alba, 1983; Ashcraft, 1994). Robert Scholes termed this process "diegesis":

> The text itself may be analyzed into components of story and discourse, but it may also be considered in the relation to the diegesis. As E.D. Hirsch has recently reminded us . . . for almost a century research in reading . . . has shown us that memory stores not the words of texts but their concepts, not the signifiers but the signified. When we read a narrative text, then, we process it as diegesis. If we retell the story, it will be in our own words (1982, p. 113).

Since the higher-order relationships discussed in this paper are relationships of meaning, it is almost inevitable they will overlap. But this is also true of any model of composition the farther it gets from the syntactic level of writing. For instance, in the traditional model, essay organization (the relationship between thesis and supporting ideas) and coherence

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(the relationship between ideas in a text) are overlapping concepts. To have a consistent relationship among the ideas in a text without establishing some kind of connection to a central thesis is just not possible: one is not independent of the other. Yet although not completely distinct, these concepts still have plenty of pragmatic value. Similarly, although there is clearly an overlap in the "Pygmalion" paper, dialectical and contextual thinking were shown to be distinct entities in "The Gettysburg Address."

Conceptualization

What I have termed conceptualization is a writer's ability to conceive an idea from a deductive to an inductive perspective (or vice versa) and express it completely from its most abstract to its most concrete form. Although I offer no examples in this paper, student failures to conceptualize are common on one end or the other of this continuum and may signal the writer's inability to completely formulate an idea. At times, it seems to me that individual students are more prone to omitting one or the other, perhaps an indication they have a propensity for either deductive or inductive thinking. For example, some student writers can organize a series of abstractions very well but fail to think through the details. Others seem naturally inclined to produce imagery, but have a great deal of difficulty discovering the abstractions that could link their images together.

Lincoln's "The Gettysburg Address" illustrates the needed balance between an abstraction (the idea of dedication) and its concrete realization (the verbal dedication at the site of the new cemetery and the dedication of the soldiers who died). Without both ends of this relationship, Lincoln's full meaning would not be possible. Take away his abstraction of dedication, and the two examples given would be isolated and unrelated. Lacking the examples, what Lincoln intended by dedication would be only partially specified.

The presence of both levels of representation may be necessary simply because the more different ways an idea is conceived, the better it is understood. It may also be that comparing the relationships within and between these representations gives the reader access to new levels of meaning. For instance:

> Consider a photograph, a painting, a pencil sketch, an architect's elevation drawing, and a builder's diagram, all showing the front view of one and the same house. With a little attention, you will recognize the house in each representation. Why?" (Langer, 1942/1957, p. 71)

Langer claims each level of representation is recognizable by its "*fundamental* pattern." What I am additionally suggesting is that comparing the relationships that compose these patterns (systemic thinking) deepens our understanding of all of them. A photograph

clearly supplies more information than a builder's diagram, yet the lack of visual detail in the builder's diagram may reveal relationships that are hidden in the photograph. Taken together these different representations present a maximum of information about a particular concept - in this case, the house. Furthermore, comparing those relationships may lead to an awareness - perhaps tacit - of a new level of relationships governing the interrelationships between representations (metasystemic thinking). So the unstated relationships between representations (or thirdness), may become an important part of the total representation of the house.

The potential of the relationship between abstractions and concrete examples to stimulate thought is demonstrated very capably in "Pygmalion." As an illustration of the thesis (an abstraction), "that society needs to be deterred from the fickle means by which it separates humans from each other and imposes various standards, even moral standards, on various people depending on what strata of the cultural spectrum they fall into," the author couples the concrete example of Alfred Doolittle's unlikely rise in society. This pairing of thesis and example has expanded a conventional interpretation of the theme - "the way one speaks determines the level of one's social status" - in two significant ways: 1) the newly posited thesis is a more inclusive abstraction than the conventional one 2) which is demonstrated by its ability to explain the thematic importance of Alfred Doolittle's rise in society as well as his daughter's, something the conventional thesis cannot do. In scientific parlance, the theory offered by "Pygmalion" is more parsimonious and has more explanatory power than the conventional theory.

On a local level, however, "Pygmalion" is not as effective. In fact, like the novice examples from the Flower, Hayes, Carey, Shriver, & Stratum study in the previous section on contextual thinking, in both "Waiting and "Pygmalion" the use of more concrete details would improve the paragraphs. Once again the importance of detail to effective writing implies several possibilities: 1) the importance of inductive thinking and concrete details to developmentally advanced adult thinking (Labouvie-Vief, 1980), 2) the importance of pictorial language to writing (Danesi, 1993), and 3) the importance of the relationship between concrete details and abstractions. It appears to me that the more distance between abstraction and detail, the more potentially encompassing the connecting relationship - as shown in the relationship between theme and the example of Alfred Doolittle in "Pygmalion." This may be an indication that the better thinker is not necessarily the one capable of the greater abstractions, but instead is the one who is able to operate over a greater range from the abstract to concrete or, in other words, to operate more flexibly between inductive and deductive thinking.

While in student essays like "Waiting" and "Pygmalion" this interaction is usually contained within paragraphs (Abstractions are posited in topic sentences and concrete details follow in supporting statements.), in expert writing it often extends across

paragraphs. Although "The Gettysburg Address" is an exception simply because of its brevity, longer pieces may contain an abstraction developed over several paragraphs or pages followed by an equally extended example.

Finally, to avoid confusion, let me briefly clarify the difference between contextual thinking and conceptualization. Contextual thinking operates between two poles - context and novelty. The relationships on either end of these poles may be described in either abstract or concrete terms. For instance, in "The Gettysburg Address," Lincoln introduces a number of abstractions - like dedication - into his context. Conceptualization, on the other hand, is an examination of the relationship between the abstract and concrete wherever they occur in the paper.

Paradigmatic Thinking

It has long been established that at the same time readers experience the text as a linear event, they also experience a powerful urge to unify it (Hjelmslev, 1943/1969; Barthes, 1964/1967; Corbett, 1971; Greimas, 1966/1983: Rosenblatt, 1978; Culler, 1980). Stanley Fish describes this phenomenon as a search for "deep structure":

> For me, reading (and comprehension in general) is an event no part of which is to be discarded. In that event, which is the actualization of meaning, the deep structure plays an important role, but it is not everything: for we comprehend not in terms of the deep structure alone, but in terms of a *relationship* between the unfolding, in time, of the surface structure and a continual checking of it against our projection (always in terms of surface structure) of what the deep structure will reveal itself to be: and when the final discovery has been made and *the* deep structure is perceived, all the "mistakes," the positing, on the basis of incomplete evidence, of deep structures that failed to materialize, will not be canceled out. They have been experienced; they have existed in the mental life of the reader; they *mean* (Fish, 1980, p. 86).

Once again from a Peircean perspective, the relationship between surface structure (firstness) and deep structure (secondness) creates a third level of relationship - the shifting relation between them. This relation between surface and deep structure may also be seen as the process which brings words like "ball" together into interpretants like 'ball of yarn," until by a progressive series of semiotic combinations the entire essay is unified into one consistent paradigm. I have chosen to call this shifting relationship paradigmatic thinking for three reasons: 1) to match the terminology used earlier by Richards, and Commons (1984); 2) as a descriptive term to show that every detail in the essay is bound to every other detail through an intricate network

of relationships; and 3) to reinforce the idea of an essay as a paradigm - a single, unified pattern, which can't be completely comprehended until the final word in the text has been read. Not until then are all the relationships within the text clear. As Nelson Goodman notes, "Even replacement of a character in a text by another synonymous character (if any can be found in a discursive language) yields a different work" (1976, p. 209).

In most student papers - like "Waiting" - this relationship is limited to an interaction between thesis and supporting statements, an interaction traditionally taught and assessed in school settings and one that Bereiter and Scardamalia have tracked in developing school children (1987). They have reported that the genre of essay isn't even possible until emerging readers and writers develop an ability to shift their perspective from part to whole - a shift that depends on how the word is perceived to function (Hjelmslev, 1943/1969).

Beyond this primary relationship of thesis to supporting statement, "Pygmalion" also utilizes several higher order relationships previously discussed in this paper - the sophisticated use of a dialectic, an equally sophisticated interaction between context and novelty (which admittedly overlaps with the dialectic), and a higher-order example of conceptualization. Because relationships between words and ideas add to meaning, these additional relationships may further clarify a paradigm without necessarily adding words (a la Hemingway). It also seems likely that the presence of these additional relationships will require more thought, first on the part of the writer - to make sure all of them are consistent with each other as well as with the thesis - and second on the part of the reader, who must possess the sophistication to interpret them. That writers work towards making all these relationships consistent was suggested to me during the writing of this paper. After positing the system of relationships described in "Relationship," I found myself engaged in a continual struggle to make the rest of the paper consistent with that system.

Relationships between words other than the ones described in this paper may also contribute towards paradigmatic thinking. What comes most readily to mind are traditional literary devices like analogy, metaphor, imagery, paradox, repeated diction, as well any relationship whether a local one on a syntactic level or a semantic one that works across text. For instance, in "The Gettysburg Address" one of the ways Lincoln unifies his speech is by the repetition of the word "dedication" accompanied by the repeated use of synonymous terms. This approach may work because encountering repeated relationships may allow the reader to create abstractions of them, which eventually coalesce into patterns of relationships that eventually reveal a pattern for the entire work - the process Fish described as searching for deep structure.

In summary then, increasing the presence of consistent patterns of relationship may aid cognition by explicitly demonstrating the interaction of the parts of a paradigm. And second, the research in cognitive psychology has shown that

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readers are better able to understand and remember thematicized material.

EDUCATIONAL IMPLICATIONS FOR COMPOSITION ASSESSMENT

The research on adult development has shown that higher-level relationships exist in adult thinking. Since some of those studies have used language as a medium in which to explore these relationships (Basseches, 1984a, 1984b; Commons, Richards, Kuhn, 1984; Richards and Commons, 1984; Kramer and Woodruf,1986), it seems likely that they are encoded in expert writing. This paper has explored that possibility by examining four higher order relationships associated with expert writers - dialectical thinking, contextual thinking, conceptualization, and paradigmatic thinking. This analysis has also revealed, however, that these relationships are often not available to students.

A few limitations of these findings should be noted. Because the relationships described in this paper exist on a semantic level - and not a syntactical one - and because of the wide range of essay purposes, these relationships are not always fully present in every example of expert writing. For instance, on the meaning-making level of writing, there is often a semantic overlap which may lessen the distinctiveness between the types of relationships. In other cases, the relationships are not always fully developed. To suit Lincoln's purpose or because of its brevity or perhaps because of the visual context within which Lincoln was speaking, "The Gettysburg Address" was not rich in pictorial language or concrete details.

Finally, of what value are models of writing to students at all, given that the research has not established their efficacy for teaching purposes (Hillocks, 1986)? Furthermore, for every rule we give students about organizing papers, there are sure to be multiple exceptions, depending on the goals and purposes of an individual piece of writing. Yet if dialectical thinking is accurately described as "movement through forms" (Basseches, 1984a), the implication that forms are necessary to thought is clear - especially to novices, who typically lack them. Moreover, much in my teaching practice suggests that the explicit teaching of writing techniques - like paragraph organization and transitions - is beneficial to students. But what, if any, impact the explicit teaching of higher order relationships in writing would have on student thinking needs to be established by future research.

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Appendix A

"The Gettysburg Address"
Abraham Lincoln

Four score and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we do this.

But in a larger sense, we cannot dedicate - we cannot consecrate - we cannot hallow - this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or subtract. The world will little note nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be dedicated to the great task remaining before us - that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion - that we here highly resolve that these dead shall not have died in vain - that this nation, under God, shall have a new birth of freedom - and that government of the people, by the people, shall not perish from the earth.

Appendix B

"Pygmalion"

George Bernard Shaw used his play "Pygmalion" to display his cynical view of the separated - class society in which he lived. He felt the restrictions placed on people and the stereotypes with which society views those people are ridiculous. He felt that through a series of unwonted circumstances (sometimes even only one major one) any human's life can be drastically changed as that person shifts from one class to another. Throughout the play his characters shift from class to class: his way of smirking at the way society so often provides no opportune path of class ascension.

It is important to distinguish an author's theme from the means by which the author conveys that theme. Some may say that the theme Shaw wanted to convey was that the way one speaks determines one's level of social status. This, however, is not true. This concept does appear throughout the play, though, and deserves credit for the value it holds in the reader's understanding of the play and the message Shaw was sending.

Shaw loved phonetics and the studies of speech. He is represented in many ways by Henry Higgins in how he thought and what he believed. It may be stated then that Shaw did feel that the major factor separating social classes has not to do with money or heritage but with speech. This is demonstrated by the fact that Clara and Freddy has little money and Eliza had not a drop of middle class, let alone royal blood in her.

It is obvious, then, that Shaw felt that one's speaking ability does have a huge impact on one's social status. The entire play is based around Eliza's social transformation solely because of her speaking ability. It is imperative that it is understood, however, that Shaw desired not that the reader come away from the play believing that speech is the key to success, but that the reader has the belief firmly embedded in his or her memory that society needs to be deterred from the fickle means by which it separates like humans from each other and imposes various standards, even moral standards, on various people depending on what strata of the cultural spectrum they fall into.

A prime example of this is Alfred Doolittle. As his social status changed instantaneously, he was given a completely new set of rules by which he must live. Shaw makes it very evident that Doolittle felt out of place and very restricted by this new world that had been superimposed over him. It was as though society has suddenly torn away his humanity; all that it had ever allowed him to know and be. It forced him to live by a totally different set of standards and principles, simply because of his class.

Shaw also pokes fun at society in that it exalted an uneducated man as one of profound mental capabilities and reasoning power. The irony increases to greater heights still and is possibly the zenith of Shaw's cynicism in this: As society striped Alfred of his moral mentality and forced him to conform to

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its own, it, in its ignorant ambivalence, heralded him as a erudite moralist and exalted his enlightening and thought provoking moral philosophy, seemingly unaware that it was the same belief system it vitiated in his life and forced him to discard, in order that he may become renown declaring it.

Shaw believed this contradicting logic to be very pervasive throughout society. It must be understood that though all people are not equal in capabilities, society should not give more credence to one than another. He wrote "Pygmalion" to demonstrate that the methods with which society judges and categorizes people are inaccurate. Many people could make contributions to society that society never lets them make, simply because it doesn't feel that they are worth paying attention to. How different the world would be if throughout history mankind would have accepted the value of every man, rather than only accept a portion of them. How many great minds have been wasted, how many great scientists have never been taught, how many revolutionary philosophers have never been shown how to think, how many peasants could have been kings, and, with a touch of cynicism, how many kings have deserved to be peasants?

Appendix C

Waiting to Inhale

Smoking and tobacco use among young teenagers is one of the biggest issues America faces today. With lung cancer being responsible for nearly in five deaths in the United States - why are young teens lighting up? Studies have shown that at age 13 is when the average teen has had his or her first whole cigarette. By age 14 half have started to inhale and by 15 half have bought their first pack of cigarettes. Smoking is the most preventable cause of death in our society with all the knowledge on lung cancer and all the ways to quit smoking such as nicotine replacements and group programs, choosing to smoke can be one of the worst decisions a person can ever make.

An estimate 450,000 Americans will die from smoking-related diseases in 1996. That means tobacco will claim 51 lives every hour in the United States. That is more than the number of U.S. battle deaths in World War II, it is eight times the number of those killed in vietnam and is ten times the number who will die annually in automobile accidents.

Tobacco contains a poison called nicotine. An injection of one drop of nicotine in it;s purest form of 70 mg will kill an average-size man. The nicotine in tobacco products is addictive in the way that heroin and cocaine are addictive. Even though cigarettes contain a much smaller amount of nicotine, they make your heart beat faster and make your hands shake. All it takes is one cigarette for a beginner smoker to become addicted. Even if you smoke only one cigarette a day you can still risk having smokers cough, lung problems and the likelihood of addiction.

Lung cancer kills more men and women than any other form of cancer and 94 percent of it's victims are smokers. There is no cure for lung cancer. Nearly nine out of ten lung cancer victims die within five years. Although most smokers want to quit for their health's sake, they are often reluctant to give up smoking's pleasures and dread facing a tough withdrawal and possible failure.

Their are many options to choose from to help a willing quiter end their addiction. One or the most popular methods of quiting, but also is the least effective is cold turkey. Only about eight percent of those who try this method, succeed. Nicotine replacement therapy such as the patch, gum or nasal spray might be the better choice if the smoker has severe withdrawal symptoms including headaches, irritability, dry mouth and sleeplessness. Another method is group programs. Group programs are the most effective, but only one in ten smokers is willing to try them. Their is also hypnosis which worksbest on people who are typically very verbal and are good at visualization. Other methods such as removing the nicotine from cigarettes, injecting combination of powerful drugs or acupuncture are often known for

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having incredible success rates.

The American Cancer Society has made November 21 the 20th anniversary of the Great American Smokeout. The staff and volunteers of the society use the day to help smokers quit smoking or chewing for at least one day. If a normal smoker can quit for 24 hours the society believes they have the strength to quit for good. Last year 11 million smokers quit for the day and since the inception of The Great American Smokeout the smoking rate of American adults has dropped from 36 percent to 25 percent.

For those who don't smoke their are still deadly risks for victims of secondhand smoke. A recent report showed that children of smokers are more prone to lung problems and allergies than children of non-smokers. Secondhand smoke is also a significant risk factor in Sudden Infant Death Syndrome (SIDS). If a mother smokes during her pregnancy it can harm the developing baby. Studies have also discovered that if a child is brought up around smoking they are more than likely to become smokers themselves. Therefore, if you are an adult and you must smoke, don't smoke in the presence of children.

They say that smoking one cigarette takes 12 seconds off your life. With all the risk of cancer and diseases why would anyone want to risk their chance to live a healthy life for a few, stress-relieving puffs of a cigarette.